

For my final, I decided to use the same dataset that I used for the midterm, because I wanted to extend some of my analysis, but also break down some other parts of the information. I did some more research and changed the way I looked at the data after I took a closer look at what actually causes crashes involving large trucks and buses. I will still include an extension of some theories I presented for the midterm, but will also include new research.

I took a closer look at the data and studies that would answer some of the questions I personally would have about a serious crash. What actually caused the driver to swerve? Was it the truck driver or the passenger vehicle driver that caused the collision? What was the driver doing as he or she crashed? Could the accident have been avoided? A causation study I looked at has the answers to some of the questions I think people would usually ask about crashes, besides the weather conditions or other external factors.

The data I looked at was part of the Large Truck Crash Causation Study (LTCCS), which is based on a three-year data collection project. LTCCS is the first national study aimed at determining the exact events and associated factors that contribute to serious large truck crashes. The study was conducted to help the Department of Transportation and other associations figure out ways to minimize the severity and overall amount of crashes across the country. The study was conducted by the Federal Motor Carrier Safety Administration (FMCSA) and the National Highway Traffic Safety Administration (NHTSA), part of the US Department of Transportation (DOT).

The study investigated a national sample of fatal and injury crashes between April 2001 and December 2003 at 24 sites in 17 states. Each crash involved at least one large truck and resulted in at least one fatality or injury. The total sample of 967 crashes included 1,127 large trucks, 959 non-truck motor vehicles, 251 fatalities, and 1,408 injuries.

According to a study released by the Federal Motor Carrier Safety Administration, drivers of large trucks and other vehicles involved in truck crashes are ten times more likely to be the cause of the crash than other factors, such as weather or road conditions.

This is where I found the most interesting story idea. The best place to start with a series of stories based on this massive amount of crash data would be with the fact that action or inaction by the driver of either the truck or other vehicle was the critical reason for 88 percent of the crashes. This means that snow, rain, bad roads, car malfunctioning etc., were not the cause for almost all of the crashes in this study.

The data produced by this study demonstrated to industry leaders that they needed to spend more time addressing driver behavior. After the data was collected, the FMCSA conducted further analysis of certain driver behaviors that were common in the crash statistics. Some of these factors included the use of prescription and over-the-counter drugs, speeding, fatigue, inattention, distractions, work environment and unfamiliarity with the road.

This is information the general public would be interested in, because it's factors that drivers can control. It seems like people often ask questions like "was it alcohol-related?" or "was it late at

night?” This study answers some of those common questions people might have, therefore this is great information for a series of stories on various crash causation reports.

This data shows that many of these crashes probably could have been avoided! That is pretty important for drivers to know, whether they are truck drivers or passenger vehicle drivers. This also gives truck and other industries a chance to teach drivers the best ways to avoid the main causes of these crashes.

The study considered crashes that involved either just a truck, or a truck and one or more other vehicles. The number one cause of crashes was *failure to keep in proper lane*. This was the cause of nearly 30 percent of the single-vehicle crashes and about 9 percent of the multiple vehicle crashes. The questions that come to mind are: Were the roads too narrow?; Were the lanes too narrow?; Was it a single-lane road? Questions like these can be researched for different states to determine whether some states have roads that are simply too narrow for safe driving.

With data like this, a series of stories can start with the fact that driver behavior causes most crashes, and can then go into the specific causes for both single- and multiple-vehicle crashes, as well as details about the drivers involved.

The second leading cause for single-vehicle crashes was *driving too fast for conditions or in excess of posted speed limit*. This is big news. Speeding caused about 17 percent of all the single-truck crashes in this study. And if you add that factor to the external factors like rain, snow or bad roads, then the number is probably even higher. That is obviously something that can be avoided and is information people should know!

Were the crashes caused by speeding while it’s snowing in areas where it doesn’t usually snow? This is the type of question that a story can analyze that people would want to know about.

Another point to include in this story would be speeding tickets. Are there a lot of speeding tickets issued in the areas where these crashes occurred? If there aren’t, then maybe there is not enough enforcement? I could talk to police departments in these areas to get this information and find out about the speeding problems.

The study also provided information about the people involved in the crashes. About 30 percent of the 46,173 drivers of passenger vehicles in fatal crashes were 25 years old or younger. That’s also really important information. Maybe shows younger drivers are more reckless or pay less attention? I think it’s important information of which people should be aware.

How are driver education programs addressing this issue? Or are they? These programs can be contacted to get this information and find out what young drivers can do to better prepare themselves for these situations.

The study also included information about drug and alcohol testing. The driver-related factors demonstrated that only one percent of the crashes in the LTCCS were caused by alcohol use by the driver. This is a positive sign since alcohol is such a worrisome factor on the road.

However, according to the data on the random, nonrandom and post-crash drug/alcohol testing on drivers, the sample size of the testing was too small to accurately estimate the problem with

drugs and alcohol for truck drivers. This is a problem. Why is the information not accurate and why are some companies not returning their testing results? Maybe the testing program needs to be more strictly enforced, and that is a story idea.

These truck companies should be contacted about their drug and alcohol testing programs to find out the details of them and how they are carried out. Also, truck drivers should be interviewed about the process to find out how well it's enforced.

Some of the data I used in my midterm is also really interesting for the general public to know.

The Federal Motor Carrier Safety Administration's *Analysis & Information Online* web site is host to various datasets. I first analyzed the *Crash Statistics* section of the site for the midterm, which includes a mixture of state and national statistics about crashes involving large trucks and buses.

These statistics are used to identify safety problems in specific geographic areas, as well as to compare state statistics to the national figures. These statistical profiles are created from three main sources, which I pointed out in my midterm analysis.

The FHWA's Highway Statistic Series is a collection of annual reports on statistical data on motor fuel; motor vehicles; driver licensing; highway-user taxation; state and local government highway finance; highway mileage, and federal aid for highways.

The Federal Motor Carrier Safety Administration operates and maintains the MCMIS. MCMIS is a collection of safety information including state-reported crashes, compliance review and roadside inspection results, enforcement data and motor carrier census data.

The data for each state profile includes seven main categories: summary, vehicle, driver, environment, crash, carrier and maps. There are also subcategories within each of those that offer more specific information like the details of the car, the driver and the weather conditions. The statistics can be used to point out common dangerous situations facing truck drivers, in order to find ways to avoid them.

One of my initial questions was whether or not states that tend to have severe weather conditions are where more crashes occur. So do states with heavy snowfall have more crashes than say, Georgia or Florida? The data with the raw numbers shows Michigan with the most crashes caused by snow, with 1030. But Michigan is a big state, so is this just because there are more drivers on the road there? So then I found out what the percentage of snow-caused crashes was for each state's total. This put Michigan in fourth and Vermont first with nearly 30 percent of its crashes caused by snow. So the data shows what you'd think it would, that the states with heavy snowfall do have the largest percentage of their crashes caused by snow.

I then found the percentage of rain-related crashes. Vermont only has seven percent of its total number of crashes come from rain-related incidents. So this shows us how much of a difference

it makes when the temperature drops just a few degrees. Colorado had one of the highest percentages for snow-related accidents, nearly 16 percent, but only three percent were rain-related.

This means these states need to figure out ways drivers can be more safe on the road while it's snowing, or while there's snow on the ground. This is important for out of state drivers, especially during this time of year.

Around the holiday season, is this a bigger problem than usual? There's snow on the ground, people are driving more now that they're out of work etc., so how can drivers be more careful when driving under these conditions? Also, if drivers aren't used to snow on the ground while they're driving, how can they be more careful in these areas? This is something to look at that people would be interested in knowing.

In Excel I just added extra columns and used the percentage formula to find out what percent of each state's total was caused by snow and rain. Then I sorted the table by that percentage in descending order to find out which state had the highest percentage.

The Source

The Federal Motor Carrier Safety Administration (FMCSA) does a good job of supplying a lot of information regarding large truck crashes. There are various data sets that give information on the crash site, drivers, external factors (road conditions etc.), as well as a lot of details about each of these categories. Each report goes into detail about the topic.

So the information is there, but it's a little hard to navigate. If you sit down prepared to go through it for a while, you will probably find what you're looking for, but not everyone has the time to do that. I found information this time around that I never even found during my midterm analysis, because it was hidden within reports/datasets that were also within other reports.

Some of this information is good for journalists to sift through to find story ideas, but some of it would also be really important for the general public to be able to reach. If you don't have some sort of idea of what you're looking for, then this data is pretty useless.

Some of the topics I mentioned above would be really interesting for the public to be able to see. The data could be put into visualizations on the site. Also, the site could categorize its data based on for what the user is looking. For example, the general public would probably want to know what the main causes of crashes are, driver details like age, alcohol usage etc. These are the facts that most people ask about when serious crashes occur.

The agency offers the data in various formats, which is very useful, but it's not very timely. Some of the reports only include data only up to 2003. So there could be safety or driver-tip programs that the study does not even include in its data that the audience should know about.

There was, however, good explanation for the most part about how each study was conducted and by whom it was carried out. Each agency is listed so they can be contacted if needed.

The agency could have created a type of visualization that allows the user to find out details about the most common causes of crashes. For example, what was the most common age group, weather conditions and driver-related cause? A type of rollover graphic could demonstrate this data to an audience that isn't very familiar with the studies included.

I enjoyed going through the data more this time, since I was more familiar with it. I liked looking through the causation study, because I think that's what is most interesting about the crashes and could really be a solid base for a series of stories.